

REMARKS

Claims 1-20 were reported in the Office Action as pending. Claims 1- 20 are rejected.
Claims 1- 20 remain.

Reconsideration of the pending claims is respectfully requested in view of the above amendments and the following remarks.

Drawings Objection

It is asserted in the Office Action that the drawings are objected to under 37 CFR 1.83(a). In response, new Figure 2 is added, as shown in replacement drawings sheet 1/1. Figure 2 illustrates the features of a GPS receiver, as recited in claim 1. Accordingly, the drawing shows "a GPS receiver comprising a GPS antenna and a GPS RF front-end including an analogue to digital converter" and "a processor".

The description is amended at paragraphs [0008-0009], to refer to both the new drawing and the original drawing (now numbered Figure 1).

No new matter is presented since the elements shown in the drawing were disclosed in the application as filed.

Accordingly, reconsideration and withdrawal of the objection to the drawings under 37 CFR 1.83(a) is respectfully requested.

Claim rejections – 35 USC § 102

It is asserted in the Office Action that Claims 1-20 stand rejected under 35 USC 102 (b), as being anticipated by Brown et al. (US 5379224). This rejection is traversed in view of the following remarks.

Brown et al. describes a low cost tracking system employing satellites of a global positioning system. This system includes a sensor, which digitally samples the GPS satellite signals and records them in a data buffer. These samples are then transmitted, over a data

telemetry link, interleaved with other telemetry data, to a data processing workstation where the position and velocity of the sensor are computed. This system is analogous to a "software GPS" system, of the kind acknowledged at page 1, lines 15-30 of the current application as filed. The sensor of Brown can be compared with the "simplified GPS receiver" of the acknowledged prior art. Likewise, the GPS data processor or data processing workstation of Brown can be compared with the "PC or laptop". For this kind of system to operate correctly, it is essential that the GPS sensor is compatible with the GPS data processor. In prior art systems, this is achieved by designing each with the other in mind (as explained at page 2, line 4 of the application as filed).

Applicant has identified a need for greater flexibility in this type of system, so that a given GPS receiver and given GPS signal processing software can be interoperable without having been designed with each other in mind. This flexibility is provided, according to the current invention, by the receiver outputting GPS signal samples together with ancillary information describing characteristics of the samples themselves and/or the signals they represent. The ancillary information can then be used by the GPS signal processing software to adapt to the particular characteristics of the GPS receiver, thus ensuring compatibility between wider ranges of receivers and processing software.

Compared to Brown, therefore, claim 1 has at least the distinguishing feature that the GPS receiver has "a processor for outputting the GPS signal samples together with ancillary information either directly or indirectly describing characteristics of the GPS signal samples and/or the GPS signals which relate to the GPS receiver". The Examiner asserts that this is disclosed at column 5, lines 30-45 of Brown. In fact, the cited passage describes details of the intermediate frequency and sampling rate used in the GPS receiver of Brown when sampling and recording GPS satellite signals. There is no disclosure here of any ancillary information which is output together with the GPS signal samples.

Claim 1 also recites that the "ancillary information allows GPS signal processing software to adapt to characteristics of the GPS receiver". The Examiner asserts that this is disclosed at column 5, lines 62-67 of Brown. In fact, this passage relates to details of the structure of the data buffers in the GPS receiver. Again, this makes no reference to any kind of ancillary information.

On the basis of at least these distinguishing features, the invention of claim 1 is novel.

Turning to claim 9, Applicant notes that this claim is similarly distinct from the teaching of Brown. According to the method of claim 9, the GPS signal samples are received from the GPS receiver "together with ancillary information describing characteristics of the GPS signal samples and/or the GPS signals which relate to the GPS receiver". Once again, this "ancillary information allows GPS signal processing software to adapt to characteristics of the GPS receiver". The Examiner asserts that this is disclosed at column 8, lines 4-23 of Brown. In fact, this passage merely discloses conventional GPS processing methods. These conventional methods include using data collected from a GPS reference receiver to assist the GPS data processor in computing a position estimate. There is absolutely no mention of receiving any ancillary information together with the GPS signal samples from the GPS receiver (the GPS sensor of Brown).

The method of claim 9 also requires "processing the GPS signal samples using the ancillary information to determine a position fix". The Examiner asserts that this is disclosed at column 5, lines 45-61 of Brown. In fact, this passage describes how the data processing workstation uses the data provided by the GPS reference receiver and the data provided from the GPS sensor to compute position and velocity. For the complete avoidance of any doubt, we note

that the data provided by the GPS reference receiver cannot comprise ancillary information in the context of the current invention since a) this data is not received from the GPS receiver of interest (that is, the GPS sensor of Brown); b) this data does not describe characteristics of the GPS signal samples and/or the GPS signals; and c) this data cannot allow GPS signal processing software to adapt to characteristics of the GPS receiver (sensor).

On the basis of at least these differences, claim 9 cannot be anticipated by Brown.

Applicant notes that the Examiner has also objected to all of the dependent claims, as also being anticipated by Brown. As discussed above for the independent claims 1 and 9, Applicant fails to understand what elements of the teaching of Brown are being equated with the features of these claims. Applicant reserves the right to rebut these objections more fully, in due course. However, they respectfully request that if the Examiner seeks to sustain such objections, the Examiner identifies the particular elements from Brown that are being equated with the "ancillary information" of the current invention.

For completeness, at this time, Applicant also notes that both the receiver of claim 1 and the method of claim 9 are inventive when compared with Brown. The novel provision of ancillary information by the receiver (as discussed above) provides the benefits highlighted at page 2 lines 20-28 of the current application as filed. Namely, this ancillary information allows GPS signal processing software to establish and then adapt to the characteristics of a particular GPS receivers output. This provides greater flexibility, because it enables particular GPS signal processing software to process signals from a variety of GPS receivers. This may remove a requirement that receiver and signal processing software need to be designed by the same provider.

Applicant notes that this problem of compatibility between different receivers and software does not arise in the context of the system proposed by Brown. It is therefore unsurprising that there is no acknowledgement of such a problem in the teaching of Brown. On the basis of this novel and advantageous solution to a previously unrecognised problem, Applicant submits that the subject matter of claims 1 and 9 is inventive.

Accordingly, in view of the foregoing, it is believed that all claims now pending, namely Claims 1-20, patentably define the subject invention over the cited references issued by the Examiner, and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

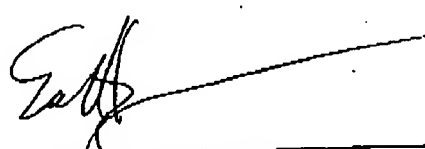
If there are any fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

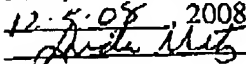
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